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approach

The Naval Aviation Safety Review

'Twas Darkness All Around!

By LCdr. Rick Stewart

After the waveoff, the pilot told us, "The lens is too dim."

I thought I had seen it all as an LSO for a squadron, an FRS, and an air wing. That evening, I was amazed all over again. It was an LSO's dream recovery: full moon, steady deck, and 25 knots of wind down the angle. After recovering the sacrificial A-7s, the show began.

A nugget Tomcat driver arrived at the ball on and on. He immediately settled, however, showing some standard new-guy color. After the waveoff, the pilot told us, "The lens is too dim." CAG Paddles, with his usual, calm, self-assured voice, replied, "Roger, just get yourself to a good start and listen to Paddles. We'll get you next time."

After we checked the lens intensity and landed three more jets, the nugget tried again. Another waveoff and a bolter later, we could hear his voice bordering on frantic.

"Paddles, I can't see the lens, or my indexers!"

From the platform, the datums looked like a Christmas tree and you could have flown the source from Mars. Finally, on his trick-or-treat pass, our sightless nugget trapped.

Breathing a sigh of relief as he cleared the landing area, he reached up to wipe his drenched brow. Ooops! What was that solid object over his eyes? You guessed it: a dark visor.

In the debrief, Stevie Wonder (a new callsign) was anxious to dispel any questions about his true flying ability and confided his mistake to Paddles. Needless to say, the LSO hadn't covered that contingency during the four downwind briefs.

No matter how many passes you've waved, it's sometimes good to remember that things aren't always as straightforward as they may seem on the platform.

LCdr. Stewart is an A-7E pilot and is the CAG LSO for CVW-15.

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Doing the Elephant Dance

By Lt. Stephen Padget

Recently, we received the Bravo Zulu nomination for this incident; you'll find it on page 19. Occasionally, we will also get stories by one of the crewmen cited in the BZ. We like to run the combination of the BZ and crew story in the same issue to give a different insight to the situation. Here, the HAC of the HS-8 Sea King tells us his experience.

Night in the Gulf of Oman.

Three months into the cruise with around-the-clock alerts, Starboard Delta, and a crew that has been flying together for most of the cruise. Common elements? Sure.

Our helicopter had returned for a quick hot-pump and crew switch. It should have been simple and easy. Our squadron had been having its share of material problems. Engines with slow acceleration, coupler gripes. Not so with 612 though, she had been a good flyer. So good, in fact, that we had stripped out all the ASW gear and made it into one of our "war wagons." It even had my name on it before maintenance went "combat" with it. A little rough in the air maybe, but nothing a blade track wouldn't fix.

We had 612 that night, so we went up to the roof. It looked good as it sat there spinning. I know it's nice shutting it down and getting that head check and tail grease, but we wouldn't be able to on this cycle. A quick walk-around confirmed everything was in order. No leaks, an H-3 pilots dream. We made the crew switch, refueled, and launched.

Not a bad night, a moon and fair horizon. We were airborne for about 45 minutes before we started shooting coupled approaches. Same old 612, a little rough, but flying good. I shot seven approaches, then passed the controls to my copilot in the right seat. Of course, he got the extra pleasure of practicing the art of dip-to-dip, fly-to points with great precision. On his second coupled hover, the crew said that the aircraft felt a little rougher. I felt like it had a slight vertical beat.

I took control as we checked the gauges. The only thing we saw was a slight primary-pressure fluctuation. Otherwise, everything else seemed OK. The plane definitely didn't feel normal, though. I departed the hover and started a turnout, asking departure for a rep.

"Problem?"

"Vibration," I replied.

"Roger, stand by."

We were almost finished with the turnout when things went from a little rough to not good at all.

"Departure, 612 declaring an emergency. Severe vertical vibration. On your stern at eight miles, inbound, descending to 40 feet." I found out later that the guys in Air Ops were joking that I sounded like I was vibrating.

Being in an aircraft that now wanted to do the elephant dance, I wanted to get as low as I could. My copilot secured the BARALT and I started a manual descent to 40 feet. Primary pressure was now jumping wildly between 1,000-2,000 psi. No control inputs, though. My

Primary pressure was now jumping wildly between 1,000-2,000 psi.

copilot secured the primary servo to see if that was causing the vibes. No difference. We left it off, just in case. We completed our landing and ditching checks.

There we were, 40 feet and 60 knots. I experimented with airspeed and finally settled on a 40-foot-40-knot creep. I thought I'd have more control if I had to ditch, plus the vibration level seemed lowest there. The miles slowly counted down.

The crewmen reported a metal-on-metal noise, and I certainly heard it when my copilot keyed his mike. I knew it wasn't a blade pocket, but what was it? A blade spar, a head going

bad? Whatever the noise was, the worst thing was that there was nothing I could do to fix it. Six miles to go.

I wasn't sure if I'd finally get that promised HS-10 (FRS) water hop now. I knew my copilot was thinking about ditching since he had already asked the crewmen if they were locked—for the fourth time. I decided to continue. If things got worse, I'd put it in the water. If we lost a blade, well, then it wouldn't matter. Keep motoring.

At one-quarter mile, we popped up to 80 feet, cleared the ramp and put the helo on the fantail. After lowering the collective, things got moving so we made an emergency shutdown. My copilot was furiously pumping the rotor brake and I yelled at him.

"Leave it on!" I never saw the blades dip that low to the deck before. That head was moving.

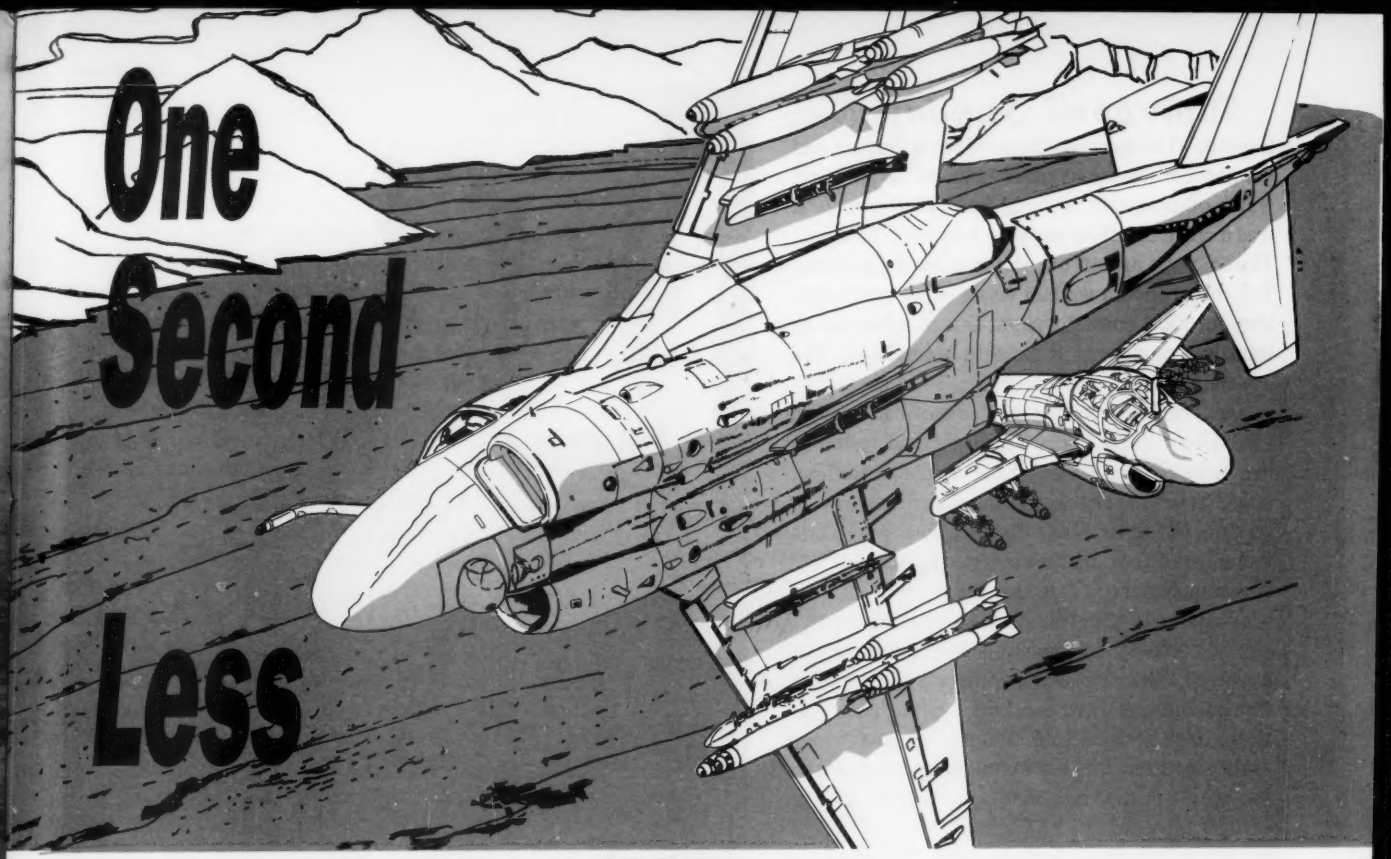
An inspection revealed a severely cracked blade tip cap on a main-rotor blade and mounting spar. The assembly was held on by just four screws. The head could be shifted by a couple of maintenance techs. Both the stationary and rotating scissors had tremendous lateral play and the spherical bearing had thrown out all its grease.

Do you really practice instruments during your day hops? A good instrument scan is vital in the HS, night-dipping arena. Would that 40-feet-40-knot creep have been as inviting on a moonless night.

Mistakes made in the brief and special procedures can be discussed over coffee. That's a freebie. Mistakes in the air are much less forgiving.

Our crew coordination helped us get through this emergency. We were ready and able to communicate the problem quickly and clearly. We performed scans, checklists and updates in rapid fire. ◀

Lt. Padget was assigned to HS-8 at the time of this incident. He now flies with HC-1.



One Second Less

By Lt. Craig Jessen

Our air wing was flying a weapons det at Fallon. The scenario was common: three A-6s flying a long, low-level mission into a target complex. An EA-6B and two F-14s would accompany us. We had been honing our strike-tactics skills for two weeks.

Everything went as planned. The Tomcats broke off, leaving just the three Intruders for the attack run. The target was unfamiliar. We were hunting for a bridge (rusty sheet metal thrown in a ditch). The first two A-6s split off to attack the target from west to east. As Dash 3, we ran the same target, but from south to north. It was a good plan, a multi-axis attack with a one-minute interval between aircraft.

We were on heading, and, more importantly, on time. The only problem was that no one found the target until we flew over it at 400 feet, doing 475 knots. My pilot pulled left to bring us around for a re-attack. We went out to about three miles and turned in, 400 feet, 475 knots, master-arm on, looking for the target. The lead had climbed high for a better look. I guess neither of us thought about his wingman.

I heard the other plane. It was the only time I have ever heard another plane while I was flying. I didn't see it until it was past us, at one o'clock. My pilot saw both crewmen's helmets. He saw their 500-pound bombs streak by our wing. There was really no time to react. The whole thing was over in a second.

Our paths crossed for only an instant but we could have been killed. It really was only luck that prevented a mid-air. If we had arrived at that point in the air one second earlier, we would have hit the other A-6, or flown into its bombs.

It took a while for me to understand how close we had come to dying. Then, it started to bother me—a lot. What had we done wrong? First, neither crew saw the other aircraft. We were hunting for the target. Both cockpits made radio calls, but we didn't hear their call and they didn't hear ours.

The other plane had gone out to six miles before turning in for the re-attack; we only went to three miles. That three-mile difference eliminated all our planned separation.

The real cause, though, can be traced all the way back to the brief: No one mentioned re-attacks. The strike lead didn't. None of the other aircrew did, either. We simply neglected it. I guess that everyone assumed that they would find the target on the first pass. If we had agreed beforehand that everyone would go out three miles or six miles, the incident wouldn't have happened. ◄

Lt. Jessen is a BN with VA-95.

PH3 J.G. Greco

Just A Bounce a

By Ltjg. Grant R. Highland

Superbowl Sunday (well, Superbowl Monday for those of us on Guam), and yet another excuse to sprawl out on the sofa and watch others sweat. Wrong! As a brand-new 2P it was a chance to fly a hop on a beautiful VFR day. The ship was just off the northern tip of the island. The only concern we had was a small-craft advisory for local coastal waters. Our mission was to transfer a passenger as the ship headed east. The sea state wouldn't be a problem.

Our brief included the ship's certification and a study of the landing area. The flight deck rested on the bow, perpendicular to the ship's centerline, only 16 feet, 7 inches above the waterline. Low, to be sure, but we briefed a fly-by to make sure that there were no hazards. We manned up our HH-46D and launched into the tropical afternoon.

We quickly found the ship. As we made our fly-by, we noticed the swells were larger than we had expected. The ship was paralleling the troughs, though, with no water breaking over the bow. The flight deck seemed safe enough. While the ship maintained a significant but manageable roll rate, the HAC (in the right seat) made a port-to-starboard approach.

We had been sitting on deck for about 30 seconds disembarking our passenger when, to my surprise, I found myself soaked from head to foot from a blast of water that broke over the bow and completely covered the helicopter. The HAC and I briefed the possibility of a compressor stall.

As our aircrewmen, aware of the dangerous situation, hurried, I monitored engine temperatures for indications of salt encrustation. Once everyone was onboard, and with no indications of salt buildup, we gave the signal to break us down. We took another minor shot of salt spray as the chocks and chains came off and we gave the signal to lift.

The HAC lifted into a hover and I watched the gauges and deck. I heard a heart-stopping sound as an engine wound down. A quick scan revealed that we were losing our No. 2 engine and I quickly told the HAC. He was already aware of our predicament.

As he settled the helo for landing, the No.2 engine explosively reignited, rapidly increasing our rotor rpm and forcing the aircraft into a 25-30-foot hover. Once we were over the flight deck, the No. 2 engine failed again, along with a partial power loss on No. 1.

Things were happening fast and the only thing I could think to do was call out our rapidly decaying

. . .the No. 2 engine explosively reignited, rapidly increasing our rotor rpm and forcing the aircraft into a 25-30-foot hover. Once we were over the flight deck, the No. 2 engine failed again, along with a partial power loss on No. 1.

rotor speed. The HAC was doing everything he could to keep the helo over the ship's deck, but with dwindling rotor speed and a helo full of fuel, we dropped like a rock.

This "landing" put the port mainmount over the deck edge with the starboard mainmount and nose strut on the flight deck. Fortunately the force of the landing, along with the pilot's control movements, allowed the aircraft to bounce while the HAC put in forward cyclic to position us on the deck.

The helicopter bounded forward and we finally had all our landing gear on the flight deck, but it wasn't time to breathe a sigh of relief yet. Just as the helicopter came to a rest, the ship rolled approximately 15 degrees to port, causing the aircraft to start sliding backward toward the deck edge. The HAC held the collective to flat pitch while he and I stood on the brakes, but the helo continued sliding toward the edge.

At this point, I could see that we weren't going to stop and I was sure we were going for a swim. However, the deck-edge combing finally stopped us, with the mainmount tires pressed against the raised steel with 90-degree dents in them.

The Sea Knight vibrated violently as we quickly shut down, realizing later that the force of our impact had disengaged the droop stops on the forward rotor head, which had caused the vibrations. Then we sighed in relief.

What went wrong? Let me count the ways. First, we learned that after our initial landing, the ship changed course, steering into the waves without telling us. This course change allowed the water to break over the bow.

Second, after the first wave broke over us, we should have told the tower that taking on salt spray

and A Shower

C.L. Gilliland

was a dangerous thing for us. We should have asked for another change in course, back to the original heading to reduce or stop the salt spray.

Once we were on the new course, we could have requested a fresh-water rinse—just to be safe. A few minutes on deck, ensuring that the aircraft was safe would have been much more preferable to what we experienced.

Was it salt encrustation? Water ingestion? We don't know. The postflight showed no buildup in the engines or evidence of an over-temp. The helicopter was not damaged and, after a thorough inspection, we flew it home the next day. We were lucky this time. What could have easily been a Class A mishap turned out to be a simple Hazrep.

Ltjg. Highland is a first-tour H-46 pilot with HC-5.

900 miles of

How many times have outside pressures—whether from your peers or superiors—made you do something foolish? I succumbed to those pressures when I was a first-tour nugget on the return leg of a good-deal cross-country from CONUS to NAS Caribbean. I had lost my TACAN on the way up, but I was sure that I would be able to have it fixed for the return leg.

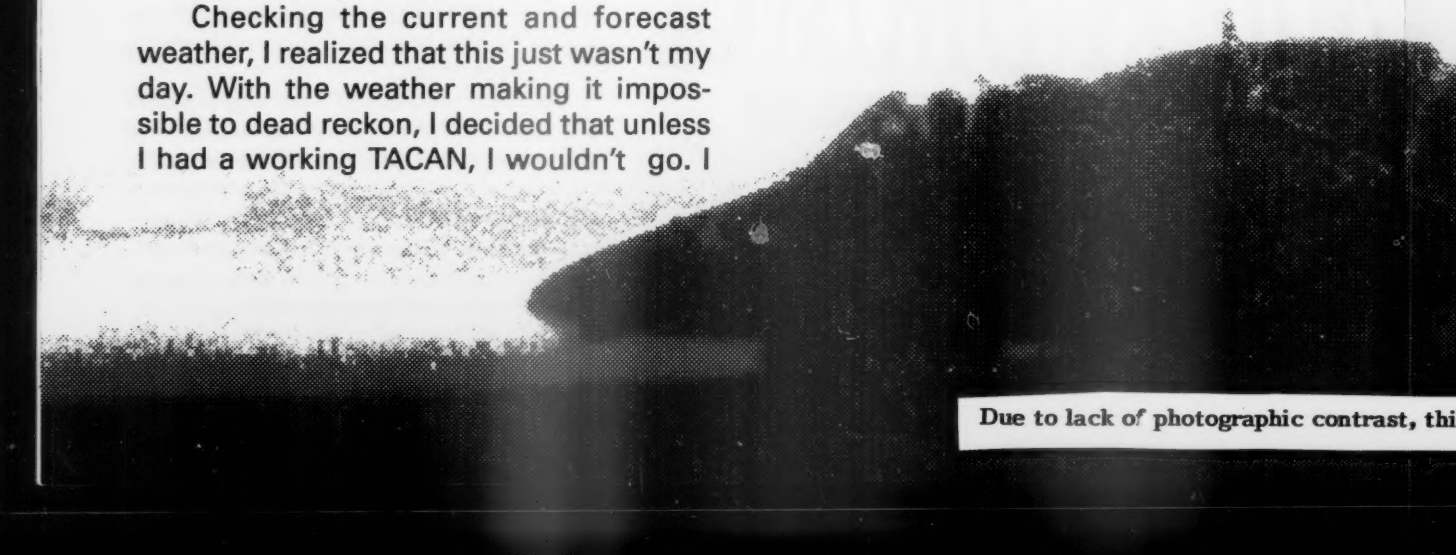
Unfortunately, as it got later in the day, it looked like I wasn't going to be able to get it fixed. Since the A-4 has one TACAN as its only means of radio navigation, I wasn't thrilled with the thought of dead-reckoning more than 900 miles over ocean.

I called the squadron to tell them that I might not be back and explained the problem with the aircraft. I didn't get a positive response. Although the skipper said not to try the return leg without a TACAN, I sensed an urgency to get the bird back.

Checking the current and forecast weather, I realized that this just wasn't my day. With the weather making it impossible to dead reckon, I decided that unless I had a working TACAN, I wouldn't go. I also set a drop-dead time since I was losing daylight.

Five minutes before my deadline, the groundcrew fixed the TACAN. As I strapped in for my return flight, I knew I was going to be hard-pressed to get the plane on deck before sunset in accordance with SOP. Ten minutes out of NAS North Florida, the TACAN broke again. Although I knew in my gut that I should turn back, I pressed on. I contemplated my situation and saw that the weather wasn't as bad as had been forecast. I had flown this route several times and I figured I could hack it as long as the weather held out and I could see the several small islands along the route. I kept flying.

The water replaced land for as far as the eye could see, and the weather began to close in. I kept concentrating on the heading and timing from my last visible reference point. The sun was setting rap-



Due to lack of photographic contrast, thi

dead reckoning

Lt. Mark A. Vincent

idly. When I lost communications with Miami Center, I regretted ever taking off.

I was past the point of no return so I pressed on, praying my headings and timing were right. As I reached my next turn point, there was a small blue hole in the blanket of white clouds below.

All my attempts at communication had been unsuccessful so I decided to descend and get under the ceiling. Unfortunately, as I managed to get VFR underneath, I found myself at 500 feet in rain showers and darkness. I frantically looked for any land mass for a reference point to check my gas. I had some idea where I was, but that was based solely on time and headings.

Nothing looked familiar to me and as I continued to fly route headings, I began to wonder how I was going to get out of this mess.

At 500 feet, in total darkness, I [illegible] all my concentration to [illegible] mention all my [illegible] I was thinking [illegible] have to go swimming if I ran out of [illegible] Suddenly, something caught my eye. A glimpse of my home field's beacon. I kissed the ground that night when I climbed out of the cockpit. I swore the next time I would do the right thing and not yield to those pressures.

Lt. Vincent is an F-14 pilot with VF-41A.

ast, this page did not reproduce well.

Don't Have a Nice Trip: Running On a CV

By Lt. Tom Colburn

On a no-fly day, you see a lot people running counterclockwise on the flight deck. They wear a variety of brightly colored shorts and shoes, and sweatgear. Physical fitness is an ever-increasing part of Navy life.

Living onboard ship for many months at a time, athletic people are not going to give up being fit because of a change in their environment, and the carrier's flight deck can be a pretty good running platform.

Having just completed a WESTPAC cruise, however, I saw a lot of fellow runners with unnecessary scrapes, cuts and bruises from minor mishaps while running on the flight deck. I took one good spill when I tripped over a tie-down chain. Fortunately, the non-skid was greasy and all I did was slide across the deck. Compared with running ashore, running on a deck offers some unique hazards: tow bars, arresting-gear cables, gear adrift, power cables, fuel lines, and air and water hoses. These things are always being moved around the deck. Some gear expands and contracts during operation and there is always the possibility of someone pulling the end of a hose just as you are running over it.

Other areas where you might "spin out" are where the arresting-gear cables wear the non-skid off the deck, and on the metal surfaces around the catapults. In fact, any part of the deck can become slick from accumulated oil, grease and fuel.

Just when you think you've got it made by keeping your eyes on the deck, you get slapped in the face by something hanging off an aircraft. The biggest culprits for giving runners a nasty gash are those aircraft that have stabilizers at eye level.

It also seems that once flight operations stop, deck crews completely forget about the head-on-a-swivel rule. Several times I have had to make a sudden stop or turn to avoid someone walking nonchalantly across the flight deck.

These hazards are also present in the hangar bay where more people are wandering around, more gear is adrift, and the aircraft are usually closer together.

Staying physically fit onboard ship is not always as easy as ashore, but if you know the hazards, you can make the best of what is available. ◀

Lt. Colburn is an S-3 pilot with VS-37.

PH2 Mark Kettenhoffen

A Little Doubt'll Do Ya'

PH1 William Shayka

By Lt. Michael McMillan

My adventure took place on two consecutive nights. The air wing was on board for CQ during the first week of advanced-phase workups. After an uneventful day CQ, my pilot and I had returned from the beach expecting to bang out four more traps and join our JO buds in the ready room.

My pilot had a fair amount of flight time, although his experience in the F-14 wasn't much more than mine. We had flown together before, however, and we were comfortable with each other. After a fair 3-wire and a light-show bolter, we slid down the chute for our third pass of the evening. We had 7.0 on the ball and were only 130 nm from the beach.

The needles were "on and on" at two miles.

Approach called, "101, level off. I'll call your descent."

I acknowledged and after a short discussion, we did as instructed. We drove in toward the blunt end, having bottomed out at 800 feet.

At a little more than a mile, having had no further communication with approach, we were apprehensive and anticipated a waveoff. What we got instead, at three-quarters of a mile, was, "101, call the ball." Our "Clara!" was answered by, "Keep it coming. You're high." We echoed that call in our cockpit with a few expletives.

What happened next can probably be deduced by any experienced aircrew. From a high start, we increased the rate of descent and picked up excess speed. Noticing this acceleration, the pilot brought the throttles back, and micro-seconds later, we were slow with the bottom dropping out.

A little right for lineup, with my too-late power call, and we skated across the ramp, for a taxi-one-wire. That was it for CQ that night. Though we hadn't damaged the aircraft, the new mark at the top of the rounddown was something I contemplated for some time, alone, on the back of the boat at 0200 that night.

The next night, eager to get back in the saddle, I found myself paired with a much more experienced pilot. I was happy to be flying, and though somewhat more wary, I figured on eight more good-deal traps. Our night phase rolled around and there I was again, sliding into home, feeling a lot smarter.

On our first pass, we were three miles out when approach called, "104, level off. Climb and maintain 3,000." I rogered the call and noted that we were drilling straight ahead.

After a second call, and another roger, I came up on the ICS to make sure the pilot had copied the climb instructions. Perhaps the previous night was still fresh in his mind because he replied, "We'll continue. If they want to get rid of us, they can wave us off."

We continued the approach, until the voice of god boomed from the boss' chair: "104, climb immediately to 3,000!" The accompanying waveoff lights persuaded us to comply and as we passed overhead, we saw that the ship was in a starboard turn.

On the first night, we followed instructions to level off and were forced into making a varsity correction to salvage an approach that we never should have started. We had believed the myth: "They won't let you try it if it's looking that bad."

On the second night, we ignored the climb call and continued the approach to the point of waveoff and a potentially hazardous situation.

The real lessons are to follow instructions unless safety dictates otherwise. Always let the controller know your intentions. The crew concept must never be allowed to break down to where only one person makes all the decisions. Never blindly trust any person or situation. In the end, all you have to rely on is your own judgment tempered by experience. As Rudyard Kipling recommended, "trust yourself when all men doubt you, but make allowance for their doubting, too." ◄

Lt. McMillan is a RIO with VF-143.

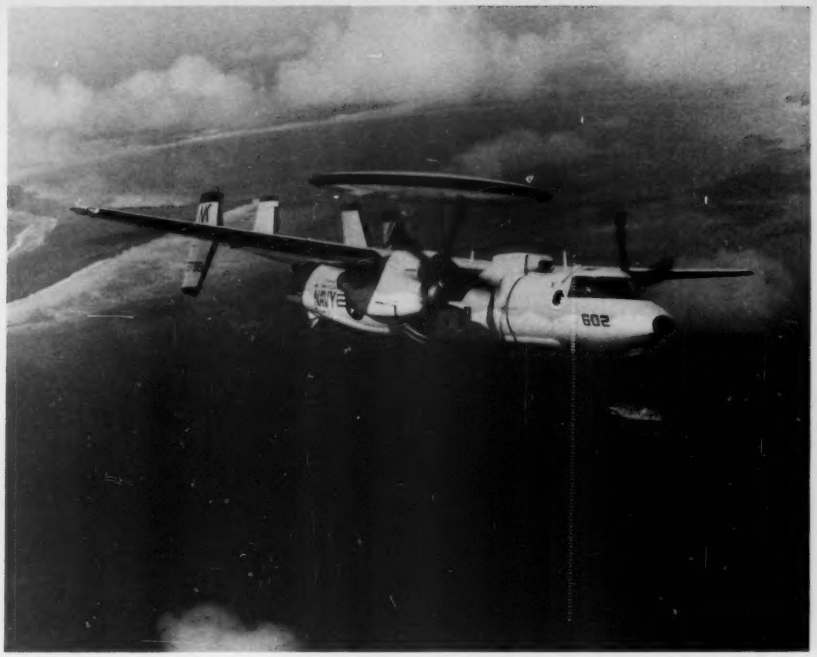
FL200... I think

By Lt. Curtis G. Phillips

It couldn't have been a better situation for a JO. Three jaygees with the keys to one of the skipper's Hawkeyes, a set of orders to ferry the aircraft to the East Coast, and plans to ferry a different E-2 back to San Diego. I had been in the squadron just a year and had already completed a workup cycle, a six-month deployment to the Indian Ocean, and received my qualification as an aircraft commander. We were all eager to impress the skipper with our maturity and when we landed at NAS Norfolk, we knew we'd won half the battle.

We planned to get an early start for the return flight, allowing plenty of time to check weather, NOTAMS, and file. After manning up, we taxied to the hold-short line. We got our takeoff clearance and launched.

At about 1,000 feet, I noticed that my airspeed was beginning to decay. I began scanning the copilot's airspeed and my AOA indicator. Having assured myself that I was maintaining proper flying speed, I told the copilot. He reminded me that the aircraft would be down when we got to our next stop. We continued with the usual procedures for an instrument departure and contemplated the options for correcting the airspeed discrepancy at our next stop.



As we passed FL180, the copilot cycled his altimeter to the proper setting and told me that his altimeter's needle had spun up approximately 6,000 feet. Well, that wasn't so bad. After all, my altimeter seemed to be working OK and I would just have to keep scanning his airspeed indicator.

At FL200, my altimeter began behaving erratically so we selected altitude indications on the INS. All attempts at resetting and cycling the altimeters were unsuccessful.

We became so entrenched with cockpit problems that we forgot to fly the SID. After a polite prompting from the controllers, we turned to the SID. At this point, the combat information center officer (CICO) told me that our vapor-cycle system was showing signs of being unreliable. If it failed completely, we could lose our only source of altitude information, the INS.

We knew our pitot-static instruments were completely unreliable and now realized that our INS might be giving poor information since it would be influenced by the faulty pitot-static system.

We considered the remaining distance and decided to return to Norfolk. The copilot called Washington Center but did not declare an emergency. As we started our right turn, he told me there was an airliner slightly above us.

"How close?" I asked.

"Would you like to know his bureau number?" he replied. I knew we had made the right decision to return since our altitude indications were, indeed, unreliable.

We began regaining our instruments at about the same altitude we lost them.

Strangely, as we descended into the airport traffic area, we began regaining our instruments at about the same altitude we lost them. We went through a few hectic minutes of internal trouble-shooting on the pitot-static heating system.

After a normal landing and return to the line, maintenance located a one-inch slice in a pitot-static line behind the pilot's instrument panel. We had made the right decision to return.

If we had been close to the deck when we decided to get involved in the problem, we could have easily hit the ground. As it was, we were at least setting ourselves up for a flight violation.

We were tempted to return to our filed route, but I'm glad we didn't try to second-guess our decision to turn around. As an aircraft commander, I'm responsible for the safety of the flight. I didn't want to overtax my ability just to be a hacker.

Time constraints kept us from ferrying the E-2 back to San Diego. Later, we learned that during the next flight of that aircraft, a propeller seal broke, leaking fluid over the nacelle, which forced the aircrew to secure that engine. What would have happened if we had decided to keep going on our flight? ◀

Lt. Phillips is an E-2 pilot with VAW-113.

Tail Rotor Trickery: *A Case of Loss of Authority*

There has been a lot of talk in the LAMPS Mk I community about loss of tail rotor authority. Some of us have adopted the Army's term of "loss of tail rotor effectiveness (LTE)." HSL-30 studied this phenomenon by polling all East Coast H-2 pilots for previously unreported LTE incidents. The study showed that LTE may be more common than previously thought.

By LCdr. L.A. Wallace

In the beginning of an Army film on LTE, several pilots are asked to define LTE; most couldn't. The SH-2F NATOPS says, "Loss of tail rotor authority occurs when the tail rotor's ability to develop thrust is exceeded."

Two schools of thought have developed about this recent development of LTE in the H-2 community. The first school considers LTE a deficiency in the aircraft design or engineering resulting from the increase in the aircraft's gross weight.

There's talk in the ready rooms that this increase has taken the SH-2F to its maximum design capabilities, or beyond.

JOC Rich Beth

The second hypothesis hits a little closer to home: pilot error. Pilots don't understand the tail rotor's limitations, or disregard them. Either way, the pilot sets himself up for LTE. Lack of familiarity with the causes and symptoms of LTE can lead to a wrong diagnosis and incorrect action that only aggravates the situation.

I like to learn from others' mistakes, but as an FRS pilot, and later as a senior HAC on deployment, I had two minor brushes with LTE. Both incidents occurred in low, slow flight as I tried to get into the wind line. The most interesting situation occurred when my detachment was embarked in a cruiser for a deployment in the Med.

Our aircrew briefed for a routine SSC hop when word came of an aircraft in the water. I immediately called the hangar and passed the word to prepare for launch as the ship came to flank speed.

Within minutes, the combat team determined that there were already two helos in the area. The rescue completed, the ship was tasked to pick up debris for the mishap board. The on-station helo would be off station in about 30 minutes. We were directed to launch and assist in the recovery effort. I took the time to rebrief our new mission and we discussed low, slow flight and tail-rotor malfunctions.

The weather at launch time was CAVU. True wind was from the east at 15-20 knots. After 45 minutes, we spotted a large piece of debris and I tried to position the aircraft to lead the motor whaleboat to it. We were heading 065 as I checked my airspeed at 60 knots. I commented to the copilot that this would be a downwind pass. I reminded myself not to get too slow in the turn and in the downwind to avoid tail-rotor problems.

Then I looked outside to orient myself to the boat and debris as I began a turn with a 20-degree angle-of-bank, with a slight descent from 300 feet. The H-2 initially responded but the yaw control soon got mushy. I immediately checked my instruments and saw my airspeed had gone to zero and the nose of the helo had begun yawing to the right.

"Loss of tail rotor authority occurs when the tail rotor's ability to develop thrust is exceeded."

"Here it goes," I said, as the heading passed 90 degrees out of the wind line and the yaw rate accelerated.

I fed in left pedal while leveling the wings in an attempt to regain control. I also reduced collective to slow the yaw rate. The radar altimeter now read 100 feet—approximately 270 degrees of turn—and descending.

I applied collective to stop the descent while neutralizing the pedals, which only aggravated the problem as the aircraft completed 360 degrees of rotation with the yaw rate increasing.

Realizing my mistake, I re-introduced left pedal which had no immediate effect as we completed two more revolutions. Approaching the 270-degree point from the windline on the third turn, I saw the ship pass by and I pushed the cyclic forward to 5-8 degrees, nose low.

As we came into the wind line, the yaw rate slowed. We began to gain forward airspeed, finally steadying on 220, 160 degrees from the wind line. Postflight analysis of FLIR video data-link tape showed that we had averaged a turn rate of 48 degrees per second during two of the revolutions.

Our crew coordination paid off. We briefed tail rotor malfunctions in detail and this in-depth briefing was a major factor in our cockpit communications. My copilot called out "Winds are from 090," once the spin developed, helping me to maintain my situational awareness and recover.

Our det aircrews had attended HSL-30's Aircrew Coordination Course before the deployment. This training gave us a good foundation for crew integration and performance.

If you're in a similar situation, consider visual reference. I noticed the ship's relative position to the wind. That reference gave me the visual cues I needed for recovery.

Knowing I was setting myself up let me analyze the problem easily. There was no question as to what corrective procedures I needed—airspeed and left pedal. Why did I neutralize the left pedal? I can't answer that one, but once the left pedal was applied and held, it worked along with the forward airspeed.

Knowing my aircraft and its limits also helped get us out of the jam. NATOPS sets limits for safe operation. Pilot technique caused this incident and proper procedures brought everyone back safely. ◄

LCdr. Wallace is an H-2 pilot with HSL-32. He was the det OINC for Det 3 in USS *Ticonderoga* (CG-47).

PH2 William Lipski

A Tale of Two Crews

By LCdr. R.B. McClung

Both of these incidents happened on an extended deployment, on hot summer days, with F-14s at high gross weight, requiring full-afterburner cat shots.

The first crew preflighted and manned up. Everything was fine as they taxied to the catapult. After the normal checks, following the cat officer's directions, the pilot selected full burner. After checking his instruments, the pilot called his RIO.

"Engines look good. Ready to go?"

"Checks good here," the RIO replied, "Let's light this candle."

The pilot saluted the cat officer. Just as the RIO saw the cat officer touch the flight deck to signal the launch, he heard a tremendous bang and the whole aircraft shuddered. The plane was still in tension. Both the pilot and RIO knew that they were going flying since there was no time to suspend the launch. They also sensed that they had at least one bad engine as a result of a compressor stall or catastrophic engine failure.

Both crewmen searched their minds for the right steps to take. The RIO felt the holdback break and they accelerated down the track. Unable to get out the whole boldface, the RIO instinctively condensed it to the essentials.

"Attitude below 10 degrees," he called, "rudder, rudder, good shot, passing 130." He gripped the lower ejection handle a little tighter just in case he didn't know his pilot as well as

he thought he did.

The pilot determined that his port engine was not working properly. Just before the end of the stroke, he slowly rotated the stick and kept the pitch below 10 degrees and put in a slight, right angle-of-bank while applying right rudder. He knew he had to compensate for the left yaw that would develop from the asymmetric thrust.

So far, so good. Roll rate and yaw were under control and airspeed and altitude were rapidly increasing. They had averted disaster one more time. The RIO eased his grip on the ejection handle, but he still kept his hand there until they were at a safe altitude. Eventually, the compressor stall cleared and they made a normal recovery. Once on deck, the crew congratulated themselves on their performance while discussing other actions they could have taken.

The second crew were nuggets and not yet comfortable with all the aspects of flying a high-performance fighter. The RIO didn't know his new pilot well, having just arrived at the squadron.

On the cat stroke, the deck crew saw fire coming from the F-14's starboard tailpipe, indicating a compressor stall or engine failure.

The pilot must have instinctively felt he needed altitude to avoid disaster because he immediately pulled the stick back to bring the F-14 to a nose-high position, while applying left rudder to compensate for the right yaw.

The Tomcat slowed quickly, nose high. The left rudder was not holding the right yaw. The aircraft started a right, rolling yaw from about 100 feet above the water, went inverted and struck the water at 60 degrees, nose down. The crew initiated ejection while inverted, but both men ejected into the water and were killed.

When an F-14 is single-engine at high-gross weight, it is fully capable of flying, but the pilot must keep his pitch attitude below 10 degrees (14 units AOA max) as indicated by NATOPS. This allows the aircraft to accelerate and climb.

The pilot in the second crew exceeded that pitch attitude, causing his aircraft to approach a stall as its drag increased and its airspeed decreased. Since his left engine yawed the plane to the right, the left wing created more lift than the right wing, which caused an accelerated roll and yaw to starboard.

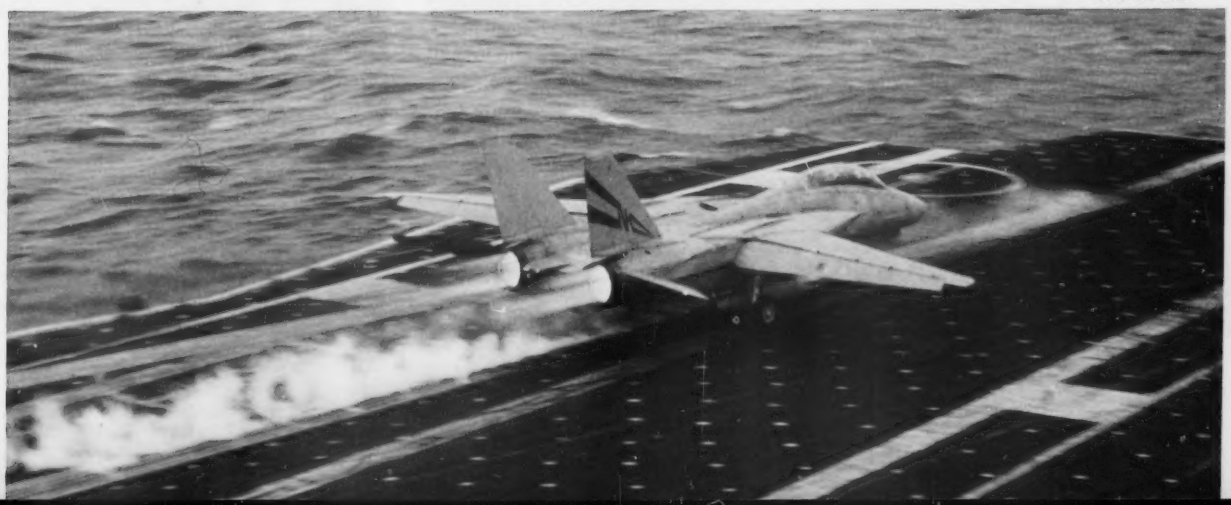
When the right wing stalled, the left wing's extra lift rolled the aircraft inverted. Inverted, at low altitude, ejection was futile.

We must all realize that our high-performance fighter has aerodynamic limits and will react to them like any other aircraft. Understanding the effects of lift and drag is essential to survival and combat readiness.

LCdr. McClung is a RIO with VF-111. He also served in VF-213 and as a Tactical Action Officer in USS *Constellation* (CV-64).

. . . the deck crew saw fire coming from the F-14's starboard tailpipe, indicating a compressor stall or engine failure.

PH1(NAC) Wilcox



Left to right: LCdr. Francis S. Pierce, Lt. Daniel M. Kletter, AW1 Andrew P. Jones, AWAN Ronald M. Pochman

LCdr. Francis S. Pierce
Lt. Daniel M. Kletter
AW1 Andrew P. Jones
AWAN Ronald M. Pochman
HS-11

While in a night dip, actively screening USS *America* (CV-66) during HOSPHASE training, LCdr. Pierce and his crew heard a series of popping noises as their SH-3H lost power in its No. 1 engine. LCdr. Pierce immediately lowered the nose in preparation for a water landing. Lt. Kletter broadcast a Mayday.

After a smooth landing, LCdr. Pierce pulled the aircraft back into a hover and began a slow creep forward. He instructed Lt. Kletter to jettison the sonar transducer while AW1 Jones and AWAN Pochman monitored the separation.

With the popping noises and loss of power recurring, LCdr. Pierce correctly diagnosed the problem as a compressor stall. Lt. Kletter went through NATOPS procedures for an emergency engine shutdown.

LCdr. Pierce continued with his climbout to a safe, single-engine altitude and airspeed. He then flew a night, single-engine approach to a run-on landing on board *America*.

Lt. Jim Kuhn
Lt. Gene Edwards
VF-32

Lt. Kuhn (pilot) and Lt. Edwards (RIO) were returning from a TARPS mission in support of Operation Desert Shield. After entering the break overhead USS *John F. Kennedy* (CV-67), Lt. Kuhn tried normal, forward wingsweep from the 68-degree position to the 20-degree landing configuration. As the F-14A turned downwind and decelerated to 250 knots, Lt. Edwards noticed that the wings had not yet moved and told Lt. Kuhn. The pilot tried to sweep the wings forward using the emergency wingsweep handle but the wings did not respond.

Left to right: Lt. Gene Edwards, Lt. Jim Kuhn

BRAVO ZULU

Having seen another squadron aircraft have a similar problem, Lt. Edwards knew that a CV recovery was impossible and immediately gave Lt. Kuhn a steer to the nearest suitable divert, Tabuk, Saudi Arabia, while also coordinating an en route rendezvous with a tanker. The Tomcat took on enough fuel for the 125-mile divert while Lt. Edwards relayed the Tomcat's unique landing requirements to USAF and Saudi authorities through an airborne E-2C. As they headed for Tabuk, the fighter crew continued troubleshooting their problem using the PCL and the advice of squadron reps in the *Kennedy*.

The aircrew knew their approach speed would be around 200 knots, which would preclude a shortfield arrestment. Lt. Edwards told the airfield authorities to lower the BAK-12 approach end gear and to raise the longfield gear and overrun barricade on the 11,000-foot runway.

When they reached 80 nm from the field, the aircraft's flight-side hydraulic system failed and Lt. Kuhn secured the bi-directional pump to preserve the remaining hydraulic system. Lt. Edwards relayed PCL procedures for this added emergency.

With the field in sight, Lt. Kuhn lowered the landing gear and evaluated the aircraft's approach characteristics. The pilot and RIO discussed their options and decided not to use the antiskid, because they knew the aircraft might blow a tire on landing.

Lt. Kuhn flew an aft-wingsweep, straight-in approach and touched down at 200 knots. As they tracked down the runway, Lt. Kuhn followed the boldface procedures for an aborted takeoff. The F-14 took an uneventful, longfield-arrestment at 110 knots.

Postflight inspection revealed a failed, starboard wingsweep-hydraulic motor, which also led to the hydraulic failure.

Lt. Steve Padget
Ltjg. Mike Consoletti
AW2 Douglas Stoughton
AW3 Albert Kuhaneck
HS-8

While performing their ninth coupled hover of the evening, the crew felt a slight increase in vertical vibrations in their SH-3H. Although they could have dismissed the increase as insignificant, they departed the hover, whereupon the vibrations increased.

Lt. Padget and Ltjg. Consoletti flew the helicopter back to USS *Independence* (CV-62) at 40 feet and 40 KIAS, which could have permitted a safe water landing if required.

While AW2 Stoughton and AW3 Kuhaneck prepared the aircraft for ditching, the pilots climbed to 80 feet to clear the flight deck's rounddown and land on the fantail. As they landed, the vibration became even greater and the crew made an emergency rotor disengagement.

Later the inspection team found severe damage to the tip cap on the No. 5 main rotor blade and excessive, erratic movement of the rotor head and the spherical bearing of the rotating swashplate.

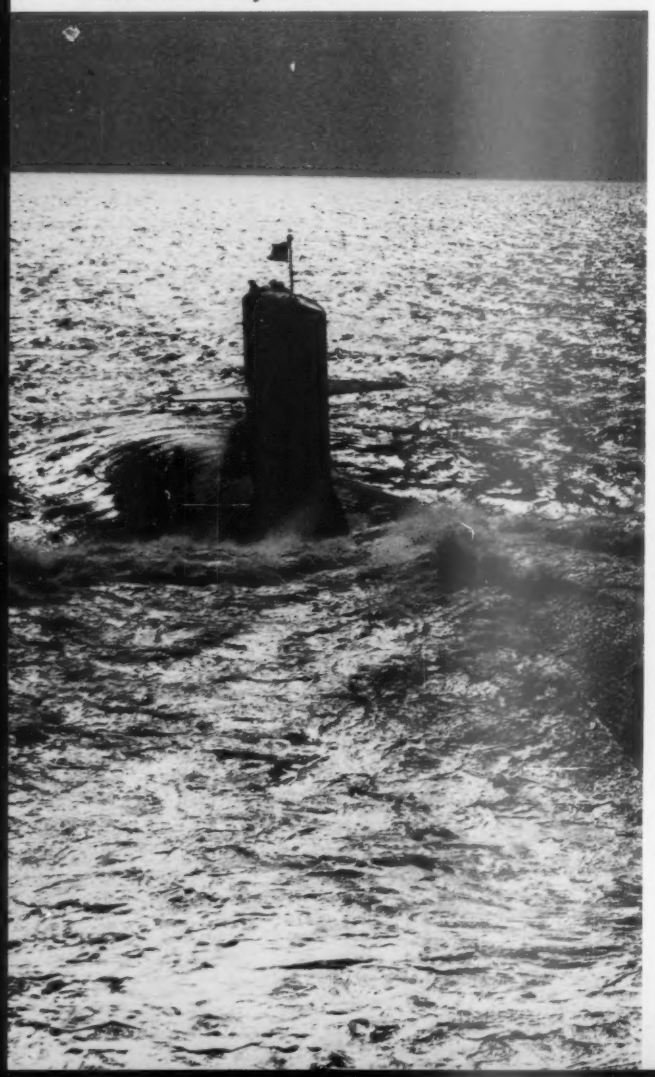
Left to right: Lt. Steve Padget, Ltjg. Mike Consoletti, AW2 Douglas Stoughgton, AW3 Albert Kuhaneck

ZEN and the art of NATOPS

By Lt. Tim McMahon

A couple of years ago, I was on an extended ASW exercise of simulated tracking and attacking an evasive submarine. When we were in a coupled hover, I was surprised to see the submarine surface in front of us. At the time, I was flying with the XO. He knew I was impressed and said simply, "It's Zen and the art of ASW."

Much later, after two workup cycles and a deployment to WESTPAC, it was my turn to prove that theory to myself on a long, night ASW mission. I was lucky to be flying with an experienced copilot who I had crewed with before, and two excellent sensor operators. The brief with our playmates—three LAMPS aircrews—was thorough, covering all aspects of the mission including tactical and safety items.



The LAMPS bubbas were the first to draw blood with passive contact. Our sensor operators were right on their heels. Soon everyone was confirming each other's calls and patiently waiting for the clearance to convert to active prosecution. The aircraft was flying well, crew coordination was outstanding and we had the sub cornered. This was turning out to be a fantastic night, which made flying around at 150 feet and below easy.

We got clearance to hammer (active sonar), and began to dip (40 feet with coupled-sonar hover). My copilot directed me so close on our dip-to-dip cycles that we were almost placing our sonar dome on top of the submarine. Each of us launched simulated attacks and continued regaining attack criteria.

Then our cable angle began acting up, and each dip became an adventure. On our next dip, our cable angle failed completely while we had several hundred feet of sonar cable somewhere out in the ocean. Our hover was becoming more and more unstable.

"Pilot, sonar."

"Go ahead."

"I see a periscope coming at us."

I glanced to the right, and sure enough, surfacing in our rotor arc was a huge, lime-green, bioluminescent submarine. At 40 feet AGL, it was an impressive sight.

"Stop dome!" I called.

"Dome stopped. Depth inaccurate."

"Commencing freestream recovery."

We began freestreaming, which is comparable to standing on a board balanced on a watermelon and trying to fly straight up so you don't snap off the sonar cable and dome. The copilot was right on the gauges calling altitude and heading, while sonar called the dome clear of the water. Our playmates rogered our freestream radio call, and told us they had us in sight and would keep clear.

When we were at a safe altitude, I began to appreciate what had happened. We had climbed straight up to 500 feet on instruments without the sub ripping the dome off or tearing it off ourselves. We also had not crashed into our playmates who knew to stay out of our way. We had all unconsciously followed NATOPS.

This incident was not a major emergency by any stretch of the imagination, but it exemplifies the need for constant review of NATOPS and a thorough brief. ◄

Lt. McMahon was an H-3 pilot with HS-14.

Tracking Down the Truth

By LCdr D. J. Thorn

In 1990 the Navy and Marine Corps investigated 62 Class A, 17 Class B and 176 Class C mishaps. The investigating officers interviewed witnesses to find out what happened. In nearly every case, at least one person saw the incident occur, or the events leading up to it. Often witnesses have diverse perceptions of these events and need help to properly recall the mishap. Since few Aircraft Mishap Board Members receive formal interview training it is important that they learn about proper interview techniques and the possible pitfalls.

Memories Can Change

According to Elizabeth F. Loftus, a psychologist at the University of Washington, recollections not only fade with time but also become increasingly susceptible to alteration by subsequent information or subtle cues, including questions posed by investigators. In recalling a complex event, such as a crime or an accident, witnesses can often make serious mistakes, substituting one item for another, confusing which side they saw something happen on, or misidentifying colors. Witnesses place non-existent items at the scene, even something as conspicuous as a barn.

Professor Chaytor D. Mason of the University of Southern California has studied the problems that affect a person's ability to pay attention: fatigue, fixation, hypoxia, overload, blocking, forgetting and stress. These factors often come into play in aviation mishaps.

Psychologist Martin Safer of the Catholic University of America in Washington has shown that eyewitnesses can recall significantly more details when questioned several times within the first 48 hours of a crime or mishap instead of just once. Safer's findings emphasize two critical elements in witness interviewing: get a statement immediately after the mishap and have the witness repeat his statement, preferably three times .

As a potential interviewer, be aware of the following points:

- Your key witness may or may not be able to tell you exactly what happened.
- The same witness may give a different story when questioned in subsequent interviews.
- Don't be surprised if different witnesses come up with different versions of the same event.
- Given the above, your witness is not necessarily lying or trying to hide something.

Memory-enhancing Techniques

In 1984, psychologists Gieselman, Fisher and Holland developed an interview procedure called "The Cognitive Interview."[1,2] They designed a set of instructions to encourage the witness and to search through his memory using four specific techniques. If the witnesses can become more aware of the circumstances surrounding the events, they can remember more accurately.

The first technique is *event-interview similarity.* A witness can recall a mishap more accurately when the environment of the interview is similar to the environment of the original event.

Second is *focussed retrieval.* A key role of the interviewer is to help the witness concentrate. Never interrupt witnesses while they are narrating the event.

Third is *extensive retrieval.* The more a witness tries to give a narrative recollection, the more he will recall. Occasionally, the witness will want to stop after the first, unsuccessful attempt. The interviewer must continue to encourage the witness to keep trying.

Fourth is *witness-compatible questioning.* We all store events in our memories differently. Each person has his own key to unlock his memory. Effective interviewers tailor their questions for each witness in a variety of ways, including using the witness's "vocabu-

lary" (even if technically incorrect, as long as you understand what he means). For example, a witness says, "I saw this jet come over those trees when the big propeller came off and it crashed into that field." Translated, he means "I saw this helicopter come over those trees when the main rotor blade struck the fuselage, broke apart, and it crashed into that field." Trying to correct witnesses is fruitless because not only will you probably confuse them, but you may also inhibit them from making any further statements for fear of appearing foolish.

The Cognitive Interview procedure includes other ways to help witnesses recall more detail. Starting with partial responses from a witness—sights, sounds, locations—you can ask more, specific questions. Again, this interplay with the witness should only occur after he has been given the opportunity to give his narrative without interruption.

We've examined some of the problems in witness interviews and some ways to improve a witness's recall. Here are several techniques that will improve your chances of getting the real story from your witnesses.

The Initial Interview (Mishap Aircrew)

The health and safety of the aircrew is more important than getting a statement, so wait until they get medical attention. Then conduct one-on-one interviews. Forcing a witness to appear before a board of officers may not sound intimidating until you put yourself in the witness's spot. It takes away from the friendly, reassuring words, "Nothing you say to me can be used against you in a court of law."

Make sure that you have a tape recorder and plenty of blank tapes. Find a private place, and take the phone off the hook or disconnect it. You do not want any interruptions during the witness's narrative. Tell the witness about privilege, and that you want to tape his statement. Let him see the tape recorder. Again, you want to assure the witness that there is nothing secretive about your investigation. Ask the witness to start describing everything he can remember from the moment he first came to work until he arrived at the hospital, clinic, sheriff's office, etc.

Talk, Talk, Listen, Talk

Talk. Have the witness narrate the entire sequence uninterrupted. You may choose to remain in the room or leave him alone, whatever way the witness is most comfortable. Sometimes, he feels pressured with you "looking over his shoulder."

Talk. Explain to the witness that you would like for him to repeat the entire sequence, to see if he can think of something he wants to add. If he is concerned that he

might not say the exact same thing, assure him that it is normal to get some events out of order, or remember them differently.

Listen. Sit with the witness and listen to both sequences. If you were not present during the original taping, take notes on any specifics you are interested in that were not covered. If you are present, take notes while the witness is giving his narrative.

Talk. Ask the witness to complete any details he might have remembered while he listened to his statements. Then, and only then, ask your questions. Thank your witness for his assistance and let him know that you may want to ask him additional questions later.

Simulator Technique

This technique is used to recreate as realistically as possible the events that led to the mishap, and has proven beneficial in previous mishap investigations.

Set up the simulator to recreate the environment where the mishap occurred, such as an airfield or ship. Visual aids are helpful, but not a requirement. Let the aircrew fly the event as they remember in real time. Your function is to observe their actions and take notes on how they interact as a crew (if applicable) and note when or where they say things started happening.

During the second run, freeze the simulator when the aircrew wants to explain what was going on, or describe their thought processes. Next, refly the event real-time, injecting the failures at the proper time as described by the aircrew. Additional runs can be made as necessary to complete details or answer any questions the AMB may have.

For those aircraft types that do not have simulators, conduct a talk-through while sitting in an aircraft.

Non-Aircrew Witnesses

Revisit the scene. Help the witness recall and visualize the external features of the mishap, the weather, time of day, place (go back to the scene if possible), and what he felt and thought at the time of the mishap. For example, a witness saw the aircraft come over the top of that (pointing to a specific building), go behind that tree, and crash into that lake.

Take a scale model of the aircraft involved in the mishap for your witness to work with. Encourage them to "fly" the model exactly as they remember seeing the mishap aircraft. You will be able to determine the aircraft attitude and angle of bank and get a better description of what might have fallen from the aircraft, and if there were explosions, ejections, fire, etc.

Aircraft Mishap Board Interviews

When you have gathered all the information from your witnesses, you may still want to have a group questioning session. The most significant advantage is the synergistic effect of the board members in listening to the witness's narrative and responses to questions, which can lead to a line of thought not previously explored. The major disadvantage is the potential uneasiness of the witness in feeling he is under a punitive board of inquiry, which may make him intentionally (or unintentionally) withhold information. No matter how carefully a board treats the witness, he may start to withdraw or get defensive. The senior member should curtail the interview if this occurs. Continuing will prove counter-productive; some boards have chased false leads based on forced witness statements. ◄

LCdr. Thorn is an A-6 BN and has served in VA-52, VT-86 and VA-75. He is currently assigned to the Naval Safety Center as a mishap investigator.

[1] Journal of Applied Psychology, Oct 1989, V74, #5, 722-727. "Field Test of the Cognitive Interview: Enhancing the Recollection of Actual Victims and Witnesses of Crime." Fisher, Gieselman & Amador.

[2] Journal of Applied Psychology, Feb 1985, V70, #2, 401-413. "Eyewitness Memory Enhancement in the Police Interview: Cognitive Retrieval Mnemonics vs Hypnosis." Gieselman, Fisher, Mackinnon & Holland.

Special recognition is due to Professor Chaytor D. Mason, University of Southern California, upon whose work this article is based.

FLAPPING in the breeze

Peter Mersky

By Lt. J.A. Komlosy

As a new RIO, I was excited to be on a weekend, cross-country tour of the southeast. My pilot and I showed up at 0900 for our flight to another NAS only 300 miles away. After a careful preflight and FOD walkdown, we manned up. My pilot was a little perturbed when a different plane captain than the one he had briefed started to give us signals.

When I brought the canopy down, it refused to slide forward into the locked position. This is a fairly common occurrence, caused by someone wrongly actuating the auxiliary pneumatic selector-valve on the aft canopy deck.

Since our plane captain was not familiar with the F-14, the pilot jumped out to reset the valve as I raised the canopy. As he got back in, we both agreed to double-check everything since our habit pattern had been interrupted.

Thirty minutes later, we were cruising at over 500 knots when I heard the power come back and the pilot exclaim, "Damn! The steps are down!" I pressed my helmet to the canopy and sure enough, both folding boarding steps were unlocked and flapping in the 500-knot breeze.

Thinking back to our man-up, we had lowered the steps when my pilot got out to reset the canopy. Unfortunately, we had both forgotten to secure the steps after he got back in. The inexperienced plane captain (the one we hadn't briefed) had been standing on the right side of the aircraft opposite the steps, instead of the normal left side. He obviously had not given the plane a good going over as we taxied away from the line.

Finally, the F-14 has a warning light for the boarding ladder, but not the steps.

This story has a happy ending since the steps survived the last 20 minutes of flight, and a very embarrassed aircrew survived a potentially dangerous situation.

Although they seem benign, cross-country flights can be just as hazardous as any other flight. Insist on briefing the ground crew who will handle your aircraft, especially when you are at a field that does not normally service your type of aircraft or when the ground crew is inexperienced.

If your routine is interrupted, start over from the beginning. We tried, but not from the ground up.

Lt. Komlosy is a RIO with VF-21.

"Hold That Stick!"

By Lt. Mark Berry

What a tool, I thought. **If anything happened, I could grab the stick in a second. What could happen...?** The irate XO had made his point, though, and I quickly re-established the habit I had learned in HT-8 of holding the cyclic at all times. A year later, while deployed in the Gulf I found out why the XO felt so strongly about holding the cyclic.

I was in the right seat as we completed the alert launch checklist using external power. Both engines were started and I had just released the rotor brake. As I brought the engine power-control levers out of idle, something drove the cyclic forward and to the right.

The cyclic had so much force behind it that I felt myself being pulled against my shoulder harness. Before I had time to consider my options, the pull of the cyclic diminished and the controls quickly felt normal. We also lost AC power and internal communications.

Occasionally the shuttle valves of the hydraulic transfer modules get "sticky," resulting in feedback through the cyclic. I'd experienced that situation and this was not that sticky feeling.

After the HAC brought the generators on line, I told him what had happened. He naturally assumed that I had experienced that sticky shuttle-valve problem. As I began explaining why I thought it was something else, the plane captain said that a troubleshooter was coming under the rotor arc. The mech told us that the ship had lost 400-Hz electrical power because of a small electrical fire. He said we should check our gear to make sure that the sudden loss of external power hadn't damaged anything.

The alert-launch checklist calls for external power until the rotors engage and bring the main generators on line. Just as we began our engagement, we lost external power and thus, the backup pump. From this point, we had no hydraulics until the rotors sped up enough to power the main hydraulic pumps.

Had the cyclic been free to travel, I am sure that it would have gone full forward and right. The fact that the rotor system was spinning relatively slowly is probably the only thing that prevented the cyclic from moving to its limits. There isn't much room on the back of an FFG for people and equipment. With the LSE, chock-and-chain men, and a safety observer all on the flight deck, it would have taken one second for a tragic mishap to occur. ◀

Lt. Berry is an SH-60 pilot with HSL-40.

Anti-skid Antics...

By Lt. Chris Scott

An arctic front had hit NAS Fallon and flight ops for our MAARP det came to a stop. We hadn't flown in two days and snow on the runway made it easy for us to decide to leave one day early. Then the weather started to clear and the snow plows did a terrific job. We decided we could still do that strike at China Lake, get a quickie turn and then head back to Whidbey. It sounded like a plan to me. I figured all the other crews would have to miss out on this great training and just go straight home.

We finished our successful strike on China Lake, and were ready for a quick turn and RTB. The weather was clear and a million. I was in the back seat watching what the front-seaters were doing. The last thing we wanted to do was something stupid the day we were supposed to go home.

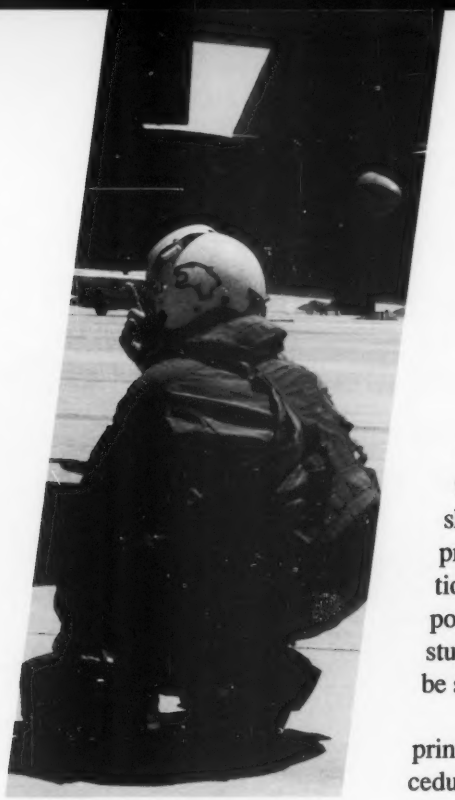
The pilot made his smoothest landing and I was already thinking about our next leg. Everything seemed fine until that first brake application. The anti-skid light came on, accompanied by erratic braking.

"OK, I'll just recycle it," the pilot said. No sweat. It had happened before and it wasn't a problem. Recycling the anti-skid once is a well-known technique if the light is on. And if it lights again, you just turn it off and use normal brakes—very carefully, I might add. More than one pilot has blown a tire when not using anti-skid.

After the second recycle, I was wondering whether I should recommend leaving the anti-skid off or let the pilot handle it? I vividly recalled a recent ready room discussion about ICS. Basically, during

I should have said something. I knew the right answer but didn't tell the pilot.

Photos: PH1 Michael D.P. Flynn



New guys can glean a lot from hearing what other crewmembers were thinking at the time.

critical phases of flight, only safety-of-flight items should be mentioned. Previous encounters with anti-skid failures had lulled me into thinking this was not an emergency. After all, the runway was dry and it shouldn't be a problem.

After the third recycle, the plane was not slowing down. I became slightly concerned.

"Here comes the long-field gear," ECMO 1 said from the front. "Grab the hook!" Whew! We stopped at last.

The turnaround and flight back to Whidbey was uneventful. Once back on deck at home, we discussed our procedures and cockpit-crew coordination. I should have said something. I knew the right answer but didn't tell the pilot. A timely call on the ICS to turn off the anti-skid might have eliminated our problem. Our crew coordination had broken down at that point. Better to say it and look stupid, than to hold it back and be stupid.

If we had known the "fine print" of the emergency procedures for wheel-brake system failure, we might have saved ourselves from taking a trap and a possible blown tire. Turning the anti-skid off is one of the bold-face procedures for erratic braking.

Crew coordination should be debriefed after every hop. Most of the questions about saying something or keeping quiet are answered by experience. New guys can glean a lot from hearing what other crewmembers were thinking at the time. ◀

Lt. Scott is an EA-6B ECMO with VAQ-135.

Crew coordination should be debriefed after every hop.

Just Fly the Aircraft

Peter B. Mersky

By Lt. Mike Mahan

It was a mild September evening, and I was anxiously fidgeting and cracking jokes in our barren ready room, waiting to walk for a dusk launch. The hop was simple. Six of the squadron's A-6s would fly to the ship. The first night trap of my first deployment.

I had finished the A-6 FRS only three-and-a-half months before, joined my squadron at sea, then made all of the seven-week final workup-at-sea period. Although I was the newest pilot in the squadron, I hadn't scared anyone yet and the skipper didn't seem to worry about me too much. My BN was a seasoned lieutenant commander with 1,700 hours in the A-6. He was a former FRS instructor, too, and we had been getting along well.

The weather was going to be a problem. It was closing in fast. What had been a beautiful sunset with high cirrus had turned into 300 obscured, half-mile visibility in fog.

Instrument takeoff? I thought, no problem. This stuff's probably only 1,500-feet thick, then it's clear above. It'll be just like the simulator, only with runway lights.

My lead rolled, and 10 seconds later, so did I.

Gauges checked, stab's good, 80 knots, off nosewheel steering...at refusal, looking good . . . 150 knots. Rotate, nice and smooth. Ten degrees nose up. Two positive rates of climb, no tow link indication. Gear's coming up. The glow of the fog, lit by the runway lights, passed quickly behind us.

We were at 300 feet and climbing at 185 knots. It was time to raise the flaps and slats. I moved the flap handle and all three indicators barberpoled, showing everything in transition. My scan was still rather slow as I went back to my flight instruments. After the usual time for the wing to clean up and the horizon-

tal stabilizer to shift to its clean-flight setting, I looked at the integrated-position indicator (IPI). It should have shown the usual "in, clean, up" indications, but didn't.

The slats were down, the stab was barberpoled, and the flaps were up. I should have kept flying the airplane. However, I started worrying about the abnormal indications so quickly that I was distracted at this important time – under 1,000 feet, at night, and in the goo.

I unconsciously relaxed stick pressure and the nose smoothly came down to just below straight-and-level on my attitude indicator. Instead of flying the jet, I was more interested in pulling off some power, not busting 250 knots, and not overspeeding the slats. At this point, my scan was IPI, airspeed, IPI, airspeed, wings level, IPI. Meanwhile, I had leveled off at about 600 feet, but was beginning to sag at roughly 500 fpm.

I think it was the movement of the altimeter's insidiously quiet point going the wrong way that caught my eye. My BN was also fixated on the IPI.

It'll be just like the simulator, only with runway lights.

"Damn!" I said, "400 feet and descending!" I decided to fly the plane.

I jammed the throttles forward and the trusty J-52s roared. I bit off a big chunk of AOA while manhandling the gyro back to 10 degrees, nose up. Frozen there for a while, my speechless BN and I rocketed out of the blackness and into an indigo sky. I was supposed to level off at 2,500 feet and join my lead at 12 o'clock and two miles. Somewhere around 4,000 feet, I brought the VSI back to + 500 fpm.

We got the flaps and slats up via NATOPS but at a comfortable altitude, in stable flight. The rest of the flight to the ship was uneventful. It was very sobering to realize that I had almost made my last hard landing trying to handle a relatively benign malfunction.

My BN and I had relearned a hard lesson. I am still convinced that, barring the obvious "eject-now!" emergencies, step one is to fly the airplane.◀

Lt. Mahan is a former T-2 SERGRAD. He is currently an A-6 pilot with VA-165.

You Know It's Going To Be A Bad Flight When...

By Lt. Craig Bertolett

➢ You showed up at the brief in body only.

➢ You're in the marshal stack plotting your XO's demise.

➢ You're approaching the target hanging onto the tailhook.

➢ You're sitting in the aircraft trying to remember how to start it.

➢ You're rolling down the runway worrying about E-5 eval deadlines.

➢ You've crossed the JBD and are just now getting to your takeoff checklist.

➢ Your roommate's music tastes annoy you more than the stall tone you're hearing right now.

➢ You've logged more hours last month tap-dancing in the XO's office than at the controls of an airplane. ◄

Lt. Bertolett is an F/A-18 pilot with VFA-81.

PH1 Michael D.P. Flynn

When a Scan *Was* Worth a Thousand Peeks

By Lt. Bob Baldocchi

The following story is true. Only the name and fuel state have been changed to protect the foolish.

After a refreshing port call to Singapore, our ship was well outside the Malacca Straits and conducting air ops en route to Gonzo Station. Flexing my nugget wings, I launched on a solo SSC mission. I had plenty of gas and swiftly covered my sector. I then climbed for my return flight to the ship. The puffy clouds that had appeared in the late morning had grown to mid-afternoon bumpers.

At 20,000 feet, I cleared a wall of moisture and spotted the ship in an area, that—even though it was clear—was a sucker hole nonetheless. As I switched to tower, I felt confident. I would have 1,500 pounds (the last true fuel state I'll mention in this story) above Case I charlie fuel. The ship was heading for the other side of a ring of clouds and from my perch at high holding, there seemed to be no end to the bad weather. Departing aircraft reported that the heavy rain stretched from five to seven miles in front of the carrier.

Someone made a good call to go Case III, and after six more recommendations, we were on our way to marshal. I was the last to check in, and with my fuel state and trimmed-down Corsair (four pylons instead of six), I felt good as I proceeded to the top of the stack. The boys from "brand X" were asking for gas.

Typical, I thought.

One-half hour, many turns and several deltas later, I pushed out of marshal with my just-in-case charlie fuel. I switched over to approach who greeted me with a "99" call.

"Check windshield air on." Just before I entered the rain, I clicked on rain removal which worked as advertised. The only visibility ahead was out the lower three inches of the forward quarter panel giving me an excellent view of the whitecaps below.

On my first pass, the LSO waved me off for not answering a right-for-lineup call. I never saw a thing. On downwind, I broke out of the rain and told the ship that I was in clear weather two miles to port. No answer. I could just picture the bridge team frantically working maneuvering boards.

On my second pass, I spotted the wake out the lower left quarter panel. I saw only the lens and, ignoring all cockpit indications including the HUD (I can hear all you cripples out there gasping), caught the ball and picked up a sizeable left drift as I subconsciously maneuvered to fly up the wake.

As the landing area appeared, the result of my being lined up on the BRC was that I couldn't make heads or tails of the centerline. I had never seen the landing area shaped like that. I got another five minutes in the penalty box.

On downwind, I saw the ship make a break for the clear area. I knew I was below tank state and from the attention I got, I surmised that there were no tankers. As I turned final, I rechecked the setting on my radar altimeter and began my approach. Pass number three was a carbon copy of the previous approach except that my low-fuel light was lit. So, third time was not the charm.

My fourth try brought a low-altitude warning that broke my scan. I transitioned to visual cues: the wake and meatball. Visibility was improving and by the in-the-middle position, I spotted the drop lights off to the right. Having been there before, I made a healthy correction, and the LSO said my jet was back on the PLAT by the in-close position, and on centerline at the ramp. I knew I had the three-wire before I touched down.

In retrospect, and after my "let's chat" session with the skipper, I learned a valuable lesson. Instrument flight needs to be maintained until sufficient visual cues are available for VFR flight. A lot is said about the transition from the instrument scan to VFR flight during approaches under actual IFR conditions. These discussions should include what constitutes adequate visual cues. That single light at the end of the tunnel doesn't always mean the track is clear. Just ask Wile E. Coyote

I gave up the instrument scan for one peek which yielded a wake and a meatball. I am sure I'm not the first, nor the last, to learn "A peek is not always worth a thousand scans." ◄

Lt. Baldocchi flew A-7Es with VA-97. He is currently assigned to the Naval Postgraduate School.

500 Miles From...

Mother

By Lt. Scott Horadan

The problem with inflight emergencies is that they come at the worst times. My first combat sortie did nothing to disprove this idea. As a nugget pilot, this sortie had a number of firsts for me. My first cruise, first Red Sea flight, first long-range, night strike (or day, for that matter), first combat sortie, in my first war. What I will remember the most was not the SAMS and AAA, although they were impressive, but a single hydraulic gauge that failed. It caught and held my attention.

I reviewed the hop many times to understand why I was so surprised by this inflight emergency. They happen, and we get paid to counter these emergencies with NATOPS. I decided that I had been so focused on the exterior threat to my "sleek" Prowler, that I had let the possibility of an internal failure slide to the back of my mind.

The sortie began as expected—a lot of pregame jitters, with me conducting an extra-thorough NATOPS brief. We launched and rendezvoused without a problem. After jousting with the KC-135 for 12,000 pounds of gas, we pressed on for the Iraqi border.

We completed our combat checklists and started our ingress profile to arrive on time to support the strikers. So far, so good. At this point (2-3 hours into the hop) I normally would have finished my umpteenth 15-minute report to my crew. I can remember giving one before I started wrestling gas from the tanker, and one with the combat checklist.

As we pressed toward the target, the aircrew workload got heavier. Ensuring optimum jammer alignment and timing our navigation so that we were within parameters for our HARM shot tasked all four crewmen. We kept sight of our CAP, looked for SAMs, arcing tracers and other HARMS in the air, and tracked explosions and secondaries. These things kept our attention out of the cockpit.

With our HARM off the rail and the jet pointed away from the excitement, I finally saw that the port hydraulic gauge was reading zero. I'm pretty sure the gauge was OK right up to the point of our missile shoot. If you lose one pump, the system has a tendency to contaminate the reservoir, causing the loss of the other pump. We were 150 miles from the Saudi border and about 500 miles from Mother. Our hearts were pumping. The fine print in NATOPS was bold in my mind—the passage that warned about cavitating the remaining pump with sudden maneuvers, or the one about not having complete control at high indicated mach. Neither deterred me from going as fast as I could; they were just something else to worry about.

I felt ready for most eventualities on the mission. I can't get over, though, how astounded I was that my own plane had turned against me. The worst-case scenario of a sympathetic casualty to the other pump didn't materialize and we made an uneventful recovery. After the flight, we found that the port flight-hydraulic pump shaft had neatly sheared itself, making it useless, but no threat to the aircraft.

Inflight failures occur regularly. You may not have the luxury of having the problem pop up over your own back yard; it might happen deep in hostile territory. I got a relatively cheap chance to sharpen my awareness and relearn the value of knowing NATOPS.

Lt. Horadan is a Prowler pilot with VAQ-137.

Photos by Peter B. Mersky

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Approach welcomes back the men and women of Operation Desert Storm... When you go home remember, take safety with you!

Poster idea contributed by John W. Williams